

Development of Cooking Skills Questionnaire
for EFNEP Participants in Kansas
&
Nutrition Education with Cooking
Demonstration for Head Start Participants in
Riley County

Final Examination – 04/07/17

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Overview

Part 1 : Master's report

Part 2 : Field Experience

PART 1

Development of Cooking Skills Questionnaire for EFNEP Participants in Kansas

Introduction

The shifts in dietary patterns:

- Fast food
- Convenience food
- “Away” food

As a result,
cooking from raw ingredients or cooking from scratch
is declining

Introduction

**Cooking skills:
an important determinant of food choice and health**

- Low cooking skills → more fast food and convenient food
- Proper cooking skills → more vegetable consumption

Introduction

Cooking barrier: lack of knowledge about how to cook

Effective intervention programs:

Nutrition education

+

hands-on skills demonstration

One of the programs: EFNEP

Introduction



EFNEP is a **community-based nutrition education** program that has been running nationwide in the US since 1969.

EFNEP's focus: assist the low-income participants to improve their nutritional well-being.

Introduction

- Cooking skills programs combining nutrition education and cooking skills have been conducted.
- Their impact?
- **Lack of validated tools** to measure the impact of a cooking skills program

Introduction

EFNEP has a national evaluation system to evaluate its programs

EFNEP evaluation:

behavioral checklist and 24-hour dietary recall

- The tools are not specifically designed for evaluating cooking skills
 - A specific tool to measure cooking skills is needed

Literature Review

The terms “cooking” and “cooking skills”
are not very simple to identify.



Literature Review

What are the definition of cooking and cooking skills?

Cooking skills are more than technical skills

Mechanical skills

perceptual and conceptual abilities

creative and organizational skills

academic knowledge

tacit skills

“difficult to classify” skills

Literature Review

What is cooking?

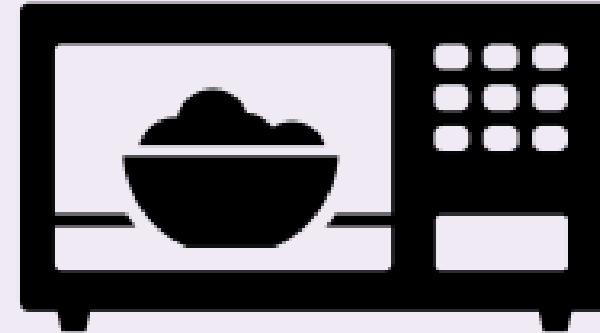
“Cooking from scratch”

“Cooking from raw ingredients”

“Using ready meals”

“Eating pre-prepared foods”

“Eating ready meals”



How about mixing raw and pre-prepared ingredients?

- Widely available pre-prepared food
- Growing technology in cooking
- Cooking is hard to define

Literature Review

Factors that impact eating and cooking:

- ❖ Socioeconomic status
- ❖ Gender
- ❖ Cooking skills
- ❖ Self-efficacy
- ❖ Age
- ❖ Nutrition knowledge
- ❖ Responsibility
- ❖ Cooking Enjoyment
- ❖ Other factors



Literature Review

Measuring the effectiveness of cooking skills program

Consider the context of the program

- Cooking skills program for kids VS adult
- General population OR low socioeconomic group
- Length of the questionnaire → retention rate
- Method: quantitative, qualitative, or mix
- Goals of program (F&V intake, body weight, confidence, etc.)

Literature Review

Expanded Food and Nutrition Education Program (EFNEP)

EFNEP has been helping low income families to reach nutritional well-being.



EFNEP participants:

low income adults, caregiver, low income pregnant women, low income adolescents, and low income children or pre-adolescents

Literature Review

EFNEP's Evaluation

Evaluation : important part of EFNEP

Pre & post evaluation for federal report

National evaluation: 10 behavior checklist using 5 Likert scales

+

24-hour intake recall

In Kansas: 4 additional questions

Methodology

The aim: to develop a self-administered tool to measure the impact of cooking skills intervention among EFNEP participants.

Challenges:

- ❖ Incorporate the complexity of cooking skills
- ❖ Should be easily administered
- ❖ Not to cause overburden
- ❖ Very detail questionnaire: ineffective

Methodology

EFNEP's tools cover:

- ✓ 24-hour dietary recall
- ✓ Food resource management items
- ✓ Diet quality items
- ✓ Food safety items
- ✓ Food security items
- ✓ Daily physical activity item
- ✓ Money spent on food last month
- ✓ Participant's personal information

food resource management items =
“**menu planning**” and “**meal management**”
Two of the diet quality items =
“**knowledge**”



Methodology

The proposed tool/questionnaire to measure the **impact** of cooking skills program **among adult EFNEP participants** will incorporate:

1. Confidence of cooking using basic ingredients
2. Confidence of following simple recipe
3. Confidence of tasting new foods
4. Confidence of cooking new foods and trying new recipes
5. The frequency of cooking main meal from raw or basic ingredients
6. Cooking enjoyment
7. Cooking satisfaction

Proposed Cooking Skills Questionnaire

- ✓ A cooking skills questionnaire with 7 questions is designed for EFNEP participants
- ✓ Designed to be short, simple, and easily administered
- ✓ In addition to the current EFNEP tools
- ✓ Questions are derived from former validated questionnaires
- ✓ Two versions: English and Spanish

Proposed Cooking Skills Questionnaire

Pilot test

- ❖ A need for piloting the tool
- ❖ K-State IRB (IRB#8408)
- ❖ Pilot group: parents of children attending Head Start Program
- ❖ Head Start families have similarity with EFNEP participants
- ❖ English and Spanish versions were tested
- ❖ Approximate time: 5 minutes
- ❖ No difficulty

It is concluded that this tool, both English and Spanish version, is easily administered by people from low socioeconomic background.

Proposed Cooking Skills Questionnaire

Recommendation

- Need to be studied further
- Reliability and validity for EFNEP's participants
- Pretest, posttest, and follow up
- Confidence, attitude, practice

PART 2

Nutrition Education with Cooking Demonstration for Head Start Participants in Riley County

Field Experience Scope of Work

Cooperative Extension:

- ❖ National education system
- ❖ Operated by land-grant colleges and universities
- ❖ Main purpose: educating public through non-formal education.

Riley County K-State Research and Extension Office

The philosophy : *“to help people help themselves by taking university knowledge to where people live, work, play, develop, and lead”.*

Health and Nutrition unit

Field Experience Scope of Work

Preceptor: Virginia Barnard, MPH, an Extension Agent of family and consumer sciences

Scope of work:

To collaborate with Riley County K-State Research and Extension Office in **designing and delivering a series of nutrition education** classes to people in Riley County, Kansas area.

K-STATE
Research and Extension



Field Experience Scope of Work

Partnering with:

Head Start program, the Manhattan-Ogden Unified School District
383

Conducting nutrition education to the parents of children
participating in Head Start program

*Head Start is a national program of USDHHS
that promotes school readiness
Children U5 from lower SE families*

Learning Objectives

1. Understand health and nutrition practices of families attending Head Start in Riley County, Kansas
2. Improve public health skills including program development, written and verbal communication, problem-solving, and evaluation
3. Understand the role of extension program in the improvement of public health nutrition areas

Activities Performed

Class series of nutrition education with cooking demonstration

- ✓ Choosing the topics
- ✓ Assigning date and place
- ✓ Designing curriculum using social cognitive theory
- ✓ Designing and distributing flyer for recruitment
- ✓ Developing materials based on federal guidelines and other sources (power point presentation, recipes, additional materials)
- ✓ Delivering nutrition education
- ✓ Performing cooking demonstration
- ✓ Conducting evaluation

Other Activities

- ✓ Junior Chef Class
- ✓ Junior Chef Girls Only Class
- ✓ Nutrition education classes for children in Ogden, Kansas



Products Developed

- ❖ Curriculum for all four classes
- ❖ Presentation files in power-point format
- ❖ Recipes performed in cooking demonstration

Materials are designed to be easily understood by low socioeconomic families



Program Description

- **Food, Families, and Fun Nutrition Classes** is a class series designed for the parents or caregivers who are members of Head Start program
- **Main goals:**
 1. Improve parents' knowledge and understanding about healthy food and healthy eating for their children
 2. Promote home-cooked meals
 3. Improve cooking confidence among parents

Program Description

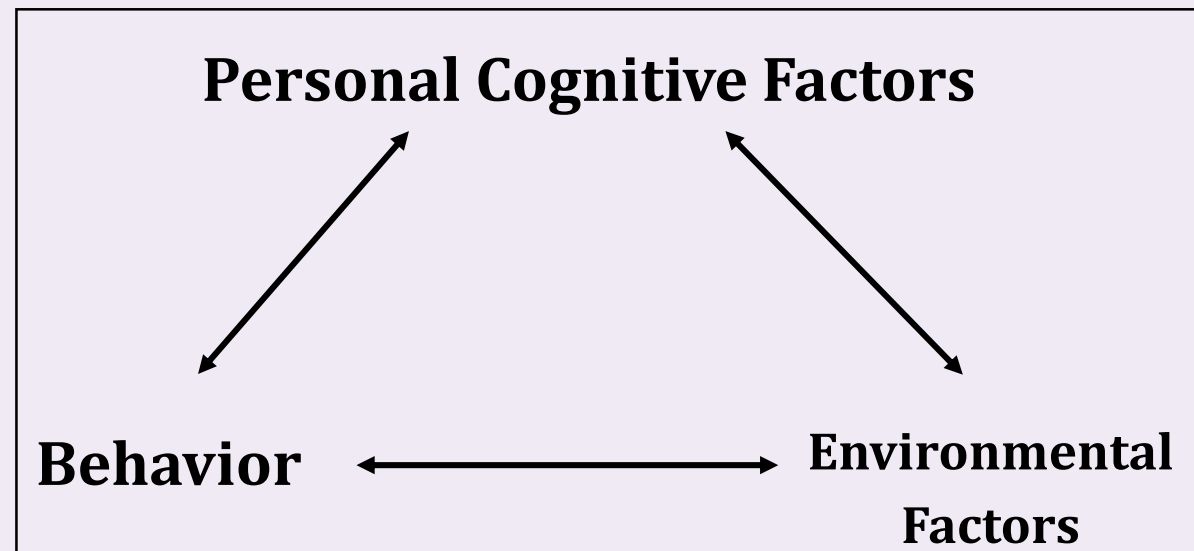
- ❖ Four classes with different topics
- ❖ Parents are expected to attend the whole series
- ❖ The class series are managed to be in a certain order
- ❖ Parents who cannot attend all classes will still be able to understand
- ❖ Parents can bring their children
- ❖ Each class starts with family dinner
- ❖ Children will be lead to separated class and activities
- ❖ Duration of each class is about 1 hour and 30 minutes (30” for dinner, 1 hour for class and cooking demonstration)
- ❖ The meals for dinner and kids’ activities are organized by students from Manhattan Area Technical College



Theory in Health Communication

- Theory = important part of health communication
- Using theory in health communication **promotes success**
- Theory can be **used as a guide**
- **Social cognitive theory**

Self-efficacy, outcome expectation, knowledge, observational learning, and behavioral skills



Application of SCT

Self Efficacy

main construct of social cognitive theory

=

confidence on one's own capability to perform a behavior that will lead to an outcome → low vs high SE

Can be improved through:

- mastery experiences (cooking demonstration: simple and healthy)
- verbal persuasion and practice under a stress-free condition (relaxing environment in class, encourage parent's participation)



Application of SCT

Outcome Expectation

Knowledge

Observational Learning

Behavioral Skills

Parents are taught skills on:

- ❖ Reading food labels and nutrition facts
- ❖ Translating amount of sugar in nutrition facts into teaspoon measurement
- ❖ Cooking skills
- ❖ Making healthy snacks & smoothies



Program Summary

Classes	Objectives	Discussion	Cooking Demonstration
What's on Your Plate? (02/14/17)	Increase knowledge about basic nutrition, the principles of healthy food, and role of healthy eating for children	Why healthy food is very important for the kids? What is healthy food and unhealthy food?	Rainbow Quinoa
Eating Healthy on a Budget (02/28/17)	Increase knowledge and understanding about food label and nutrition facts, share tips and tricks on eating healthy while still on a budget, promote cooking at home	Is healthy food more expensive? What are the benefits of cooking at home? Tips on being on budget	Creamy Pasta with Peanut Butter Sauce

<p>Think Your Drink (03/07/17)</p>	<p>Increase knowledge and understanding about added sugar and naturally occurring sugar, health risks of consuming too much sugar, limit of sugar per day, limit the 100% juice, the amount of sugar in popular drinks, healthy drink options</p>	<p>What drinks do you have every day? Are they healthy and safe? What is the recommendation of sugar intake in a day? Why we should limit sugary drinks? What about 100% juice?</p>	<p>Three smoothies' recipe: Peach Banana, Mixed berries, and Simple Green Smoothies</p>
<p>Picky Eating and Healthy Snacks (03/14/17)</p>	<p>Wrap up the lessons from previous classes, increase the knowledge about healthy snacks and healthy snacks options, encourage healthy parenting on parents especially when facing picky eaters</p>	<p>Do you remember? How much fruits and vegetables per day for adults and for children? What are your favorite healthy snacks? What's most important at meals?</p>	<p>Fruit crepes and dipping sauce</p>

Strategies of the Program

- Important messages: **simple** and **repetitive**
- Parents participation for observational learning and class engagement
- Parents are motivated
- Cooking demonstration to promote confidence and skills
- Simple and healthy recipes

Program Evaluation

1. Cooking skills evaluation
2. Knowledge evaluation
3. Program evaluation

Cooking Skills Evaluation

Filling 7 questions self-administered pre and posttest

(4 cooking confidence questions, 1 cooking practice question, & 2 attitude questions)

Improvements on:

- ❖ Confidence of being able to cook from raw ingredients.
- ❖ Confidence of following a simple recipe
- ❖ Confidence of tasting new food
- ❖ Confidence of cooking new foods and recipes
- ❖ Frequency of cooking

Knowledge Evaluation

- ❖ Through discussion questions.
 - ❖ No written test since
 - ❖ Brainstorming
 - ❖ Do you remember?

Program Evaluation

- Filled at the end of each class
- Parents express their thought, suggestion, and comment about the program.
 - Four open-ended questions.
 - Positive comments in general

“I didn’t ever check the nutrient facts on labels but now I will be making sure I read them”.

“It was very well organized”

“Lots of good information about what we eat and drink”

“I will make it and make sure I watch what I give my kids and myself for now on”

“I love learning new recipes!”

“These past Tuesdays have been fun!”

“The handouts were very professionally made”

“They showed us how to cook fast and nutritious”

“It was very interactive and I love getting new recipes”

“I expected to learn how to shop on a budget and get really good tips”

A participant showed a picture of smoothies that she made at home following the recipe and demonstration at the class.

Evaluation Form

Family:

Date: 3/7/17

1. What did you enjoy most about this event:

the Food and smoothies and the
new reciepes

2. Did this event meet your expectations: Yes or No Explain:

Yes it did, thank you

3. What could have been done differently?

I didn't ever check the nutrient facts on
labels but Now I will be making sure
I read them

4. Other comments, concerns, suggestions, or questions:

I will make it and make sure I
watch what I give my kids and myself
for now on.

Limitation and Recommendation

- ❖ Main limitation: variation on the number of families attending each class
- ❖ Not all families attend all classes
- ❖ Pre and post evaluation cannot be done properly and some families missed the benefits of the class(es)
- ❖ Future programs:
design methods of recruiting participants

Culminating Experience

MPH 785 - Introduction to Epidemiology

MPH 701 - Biostatistics

MPH 802 - Environmental Health Sciences

MPH 720 - Administration of Health Care Organization

MPH 818 - Social and Behavioral Sciences

FNDH 600 - Public Health Nutrition

FNDH 844 - Nutritional Epidemiology

FNDH 820 - Functional Foods for Chronic Disease Prevention

FNDH 880 - Graduate Seminar in Human Nutrition

MC 750 - Strategic Health Communication

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Thank You!
Any Question?

